

# A brief overview of my latest explorations



# Terrains

Underlying patterns exist in every aspect of reality as we know it. Some of the most basic and apparent ones are part of the everyday experience we absorb everyday in the form of countless millions of sensory stimuli.

For this group of works, the image is chosen as the basis for dealing with patterns from all of these realms.

Basic sensory forms include pattern and regularity of the visual world, one that on the most basic cortical levels is a planar map. Converting this sensory experience into a time dependant form preserves the features and characteristics, but suspends them into a temporal existance.....

Other sensory experience over time, such as sound retains the vital elements of pattern of occurrence and amplitude. This present body of work doesnt extend on a fine level into the frequency domain

The touch realm directly acquires textural aspects of surfaces and materials, and stores them for use in waves and compositions. A special piece of equipment under development, the 'Terra-Stylus' records vibrations when dragged across a surface

# A Brief History



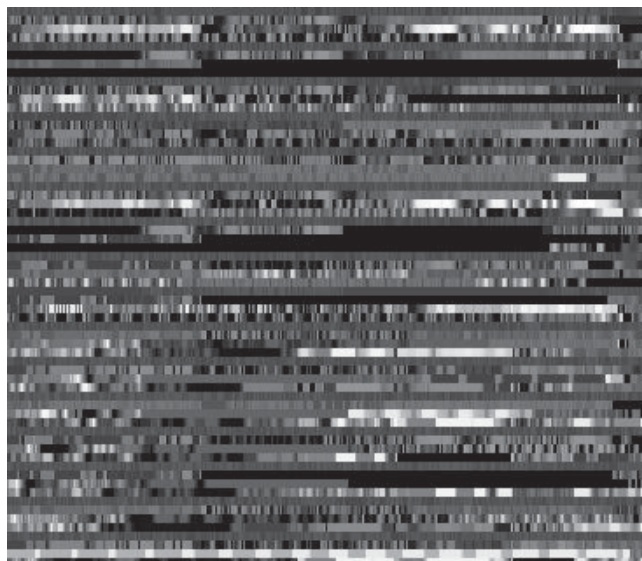
A bit about a few pieces posted on archive.org

The Moonscan recordings were made in the years 1999-2000, when I was exploring the relationship between fractals, natural systems and music.

These recordings were made during the time I was developing a software application that reads visual data, and turns it into midi data, and music. The pictures are scanned and then filtered by the manipulation of translational processes in the software, which dictates how the resulting music sounds.

Moonscan 1 - 8 get their original content from NASA lunar landscape images.

<http://www.archive.org/details/moonscan1>



Above moon mage mapped according to musical rules. Encoded in this image are pitch, velocity, time values etc.

## The Present:

Has been working on various methods of acquiring and translating patterns of the natural world. This multi-sensory journey yields countless sources of compositional textural and waveform material for visual and sonic compositions.



Visual data is extracted from found images, drawn visual scores, and adaptations of algorithmically generated visual fields. Data is also gathered from a variety of sources from other sensory domains, including sound, and touch. The sound conversions are a software process, where the latter requires custom sensors and electronic equipment.

Other processes, such as 'text to sound' (on the micro level ) or 'text to structure' (on a more macro level ) may borrow patterns from available data sources, including literary works, genomes, weather, and astronomical data.

This process eventually led to generating and manipulating images for the sole purpose of making sound and compositions.

My present-day experiments in this field lead to a rather large variety of custom software applications for whatever specific need arises. The programming environment used depends on the shortcomings for a particular platform (mine, or those of the language itself ). Currently image data is ingested into a VB application, and converted into binary or text files. Binary files are used for direct import as raw wave data. The text files are normally structured in specific formats for parallel sonification processes. Normally data derived from images is based on 8 bit fields, which makes the most sense when dealing with the most common 24 bit color format. Normal text output formats I use are 8 bit monochrome, RGB 3 column format, and 8 and 16 column monochrome formats. These formats are convenient when mapping to various parameters in custom applications in Max/MSP and PureData. These applications are normally the end users of the data, but I have Max bridge programs that filter and send the data as MIDI to many other commercial apps and external MIDI instruments.



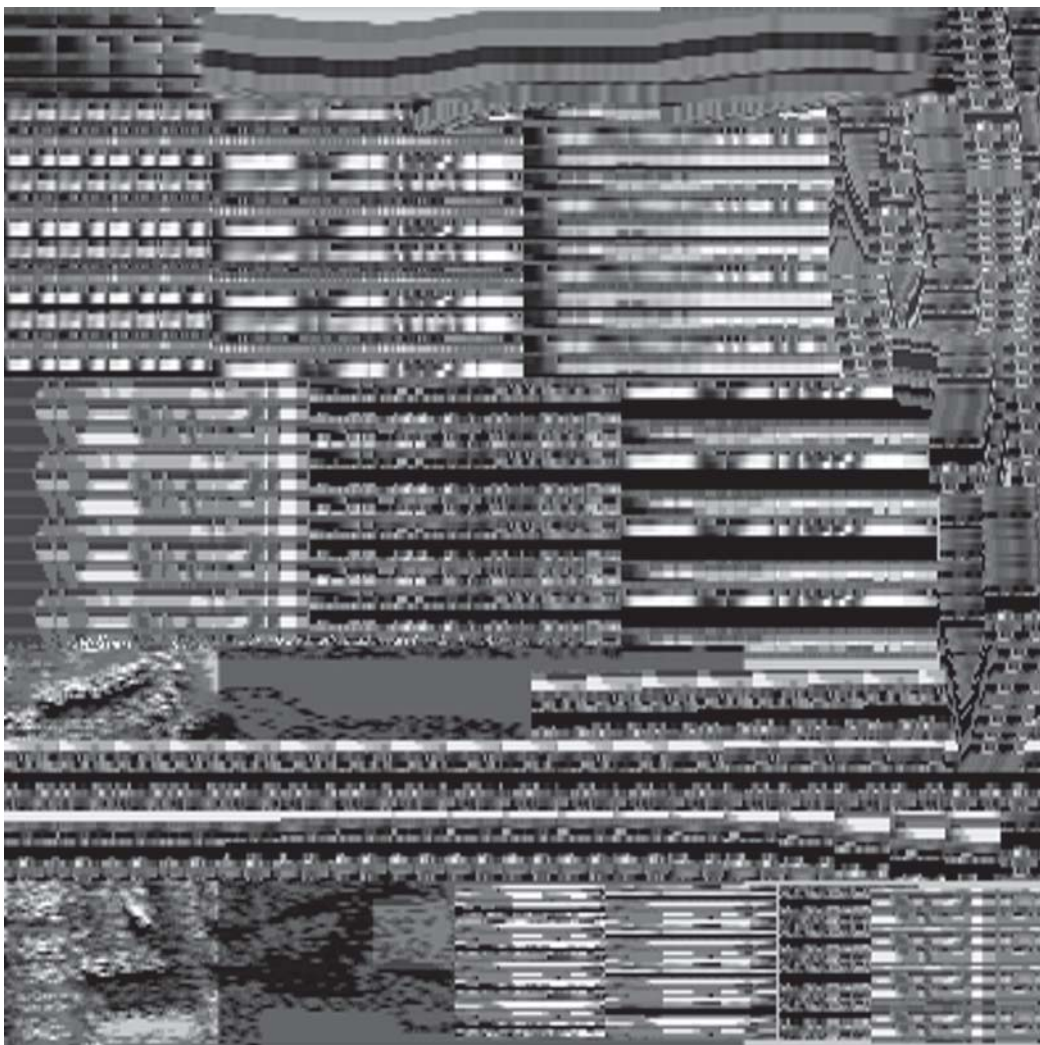
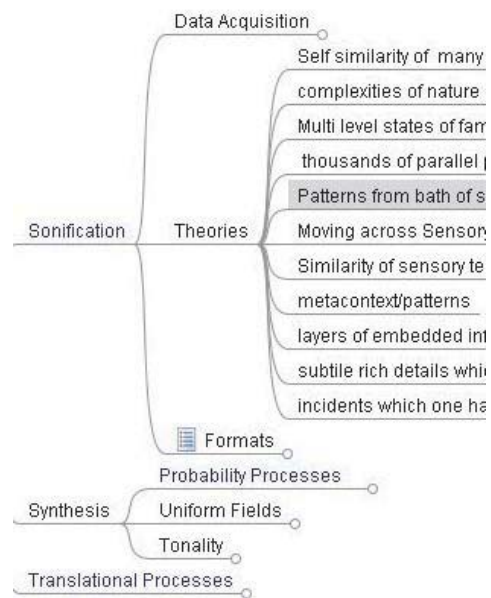


Text file resulting from scanning a scanned image. The file is eventually mapped to any number of various synthesis parameters

```
3_6Score.bmp.txt - Notepad
File Edit Format View Help
Sonification Text File
395
293
115753
single
mono
...
EOFHEADER
72
72
72
55
60
67
71
71
60
60
57
57
62
72
59
59
72
62
81
67
71
71
60
57
57
62
72
59
```

A 16 column text file, meant for sampling of regularly spaced image data attributes for the purpose of parameter mapping.

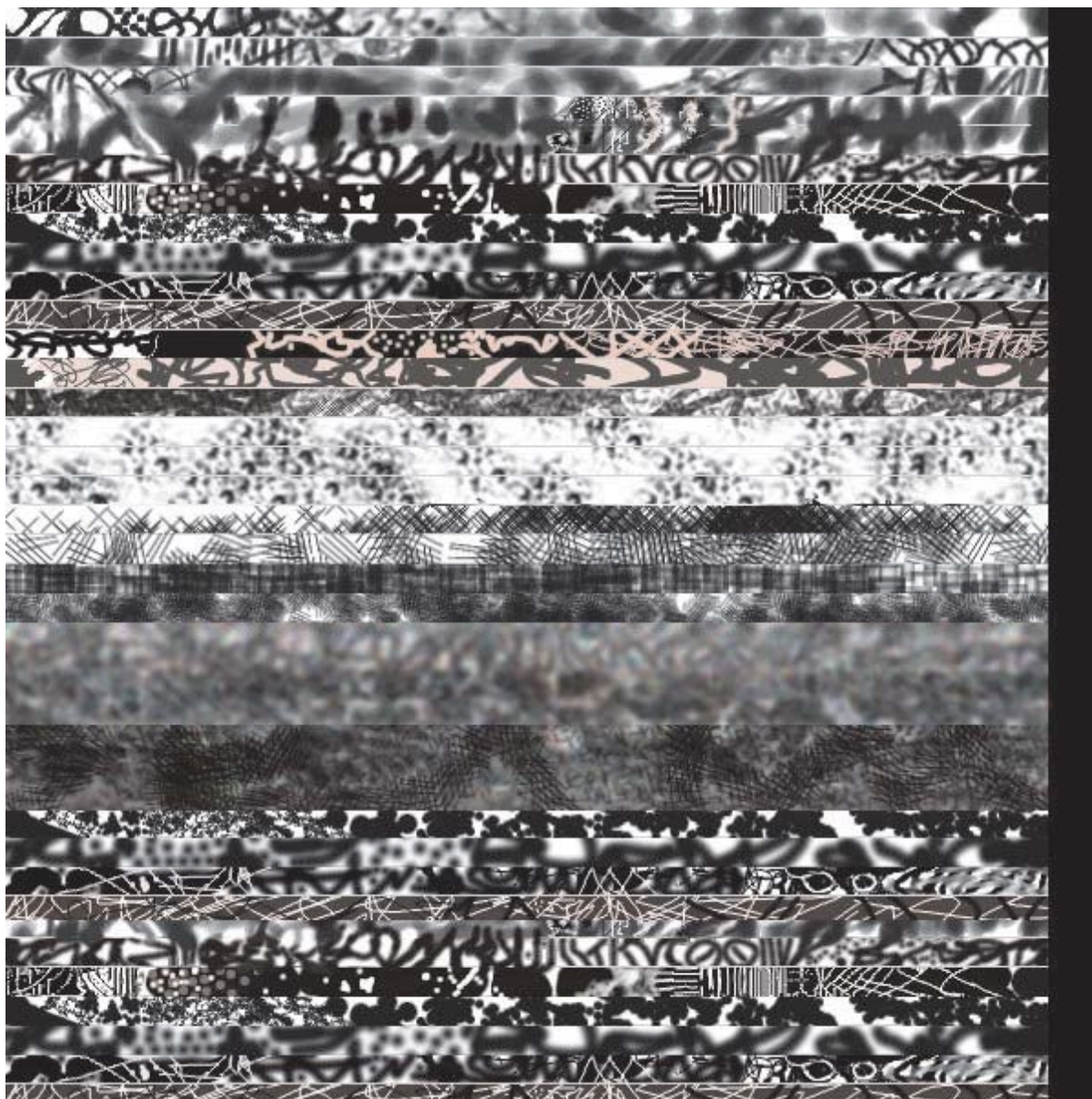
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row16score1.jpg.txt - Notepad
File Edit Format View Help
Sonification Text File
576
594
342144
single
comb16
...
EOFHEADER
252 251 255 252 255 255 255 250 251 145 103 107 35 18 16 29
255 255 255 255 253 249 249 255 254 255 246 233 22 47 27 9
250 253 249 252 255 255 249 255 255 251 254 235 220 115 16 31
255 255 253 251 255 255 255 251 255 253 246 225 230 210 27 17
248 253 255 255 252 247 255 254 247 255 244 239 224 229 19 17
255 253 245 255 255 247 255 250 255 255 251 249 226 13 29 15
250 255 252 248 255 252 255 253 255 242 255 249 23 19 2 57
140 242 255 252 255 255 255 253 251 255 251 64 40 17 17 223
49 255 255 250 255 254 251 255 255 246 86 13 13 31 242 234
16 246 255 254 255 253 255 249 251 116 15 25 34 245 255 255
24 37 243 255 250 251 249 138 10 28 23 11 255 253 251 255
14 16 24 255 255 203 40 20 31 4 34 254 255 255 255 254
45 12 26 15 32 18 18 11 32 97 255 255 250 251 255
19 23 19 16 14 20 17 22 0 104 255 242 255 255 254 19
23 22 19 30 10 21 22 1 255 253 255 255 255 108 23 18
20 24 16 16 17 29 86 255 253 255 245 255 242 40 14 20
71 17 22 19 10 66 255 248 254 255 255 255 56 21 21 30
12 14 27 23 208 252 252 255 255 253 248 114 31 24 36 68
18 23 23 134 255 253 253 255 255 255 206 23 22 52 17 45
21 12 77 255 246 255 251 255 248 252 86 11 16 139 134 212
17 27 132 255 255 247 251 247 255 94 20 80 251 255 254 255
13 20 255 250 253 253 255 117 66 24 72 133 255 243 255 246
27 22 253 255 249 255 247 79 20 46 255 255 240 255 255 255
19 79 255 253 253 255 14 19 53 255 241 255 254 252 255 255
26 103 255 251 209 13 84 132 255 255 248 255 255 253 255 252
12 255 255 207 23 145 252 254 249 254 255 249 255 253 243 255
20 248 252 24 59 240 255 253 255 251 255 248 255 255 255 253
40 67 27 18 254 255 251 252 252 255 254 255 243 254 255 250
32 36 9 48 251 255 255 253 255 255 251 217 111 25 14 70
11 25 13 255 246 255 254 255 255 61 24 16 20 34 13 42
30 12 27 255 255 255 244 209 25 22 11 220 41 21 23 114
52 23 209 250 255 253 216 22 22 15 85 13 26 22 27 42
18 28 242 255 251 70 40 26 25 26 26 24 21 18 19 20
16 39 135 108 44 199 40 28 19 21 22 21 18 17 18 19
18 27 141 54 51 10 20 24 16 18 19 19 17 17 18 20
43 26 45 15 25 18 32 9 18 19 20 20 19 19 20 21
78 19 12 30 17 21 18 23 20 20 21 20 20 19 19 20
21 25 17 21 15 42 67 20 20 19 19 19 18 18 17 17
17 12 27 29 12 31 22 14 19 18 18 18 18 17 17
59 25 13 17 20 21 13 24 19 18 18 18 19 20 19 19
21 14 18 30 17 17 21 17 16 18 20 22 14 22 21 21
19 22 26 115 235 253 254 255 212 130 67 87 24 17 10 20
24 16 187 252 255 255 252 255 251 255 242 135 19 21 14
18 23 255 255 249 255 250 255 250 255 255 223 22 28 22
11 51 255 248 255 252 252 255 255 255 241 255 255 43 20 11
```



Moon image mapped according to multiple sets of musical rules, reassembled for the purpose of waveform generation.

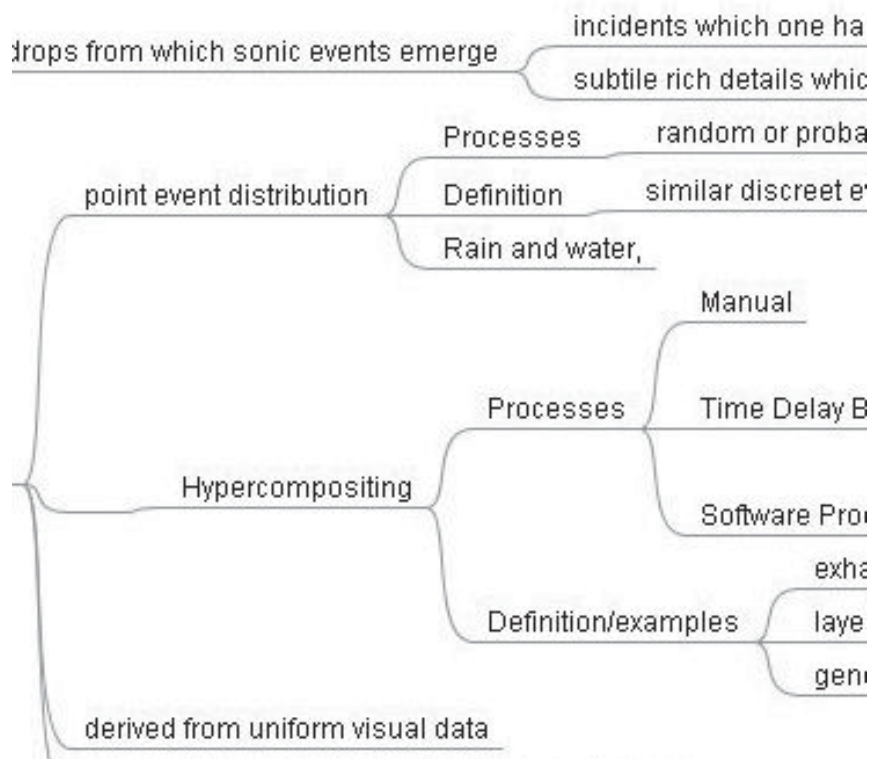
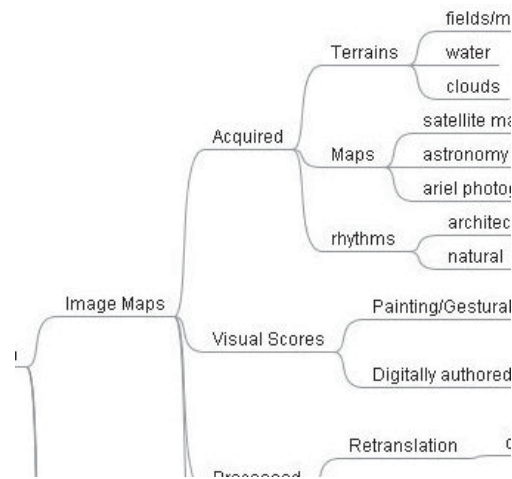


## On the Macro Level

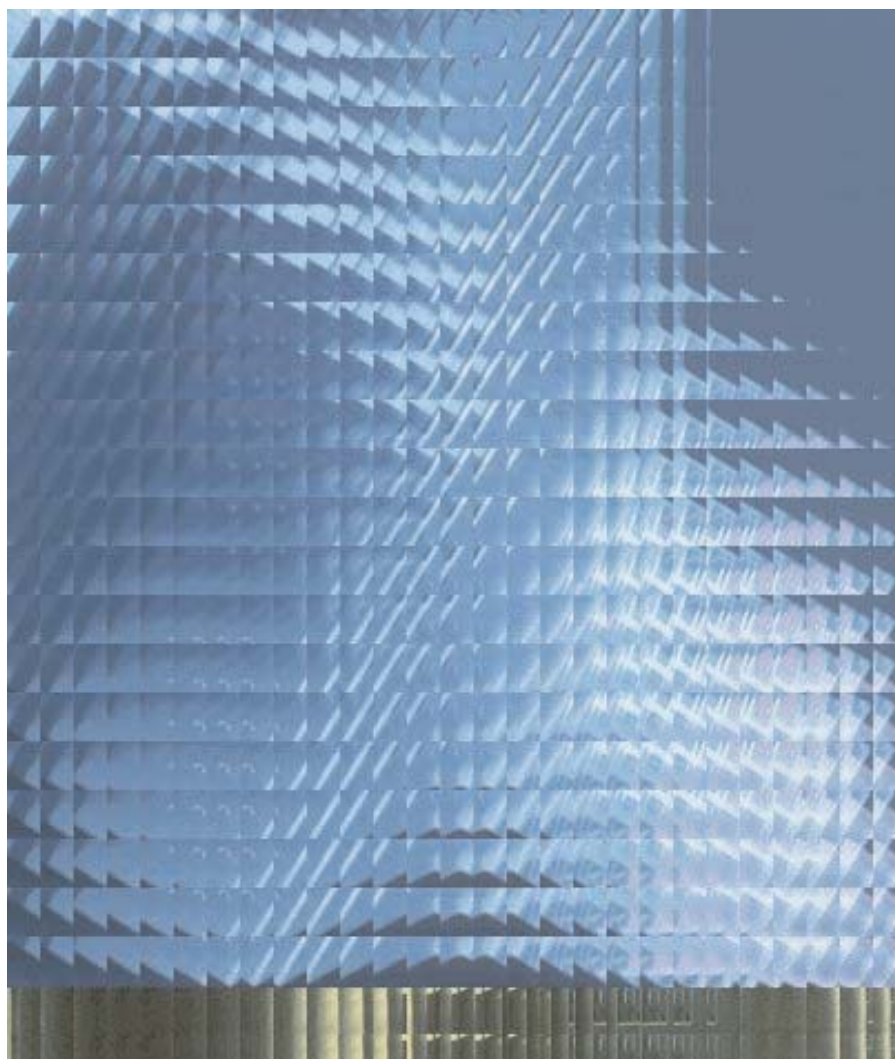
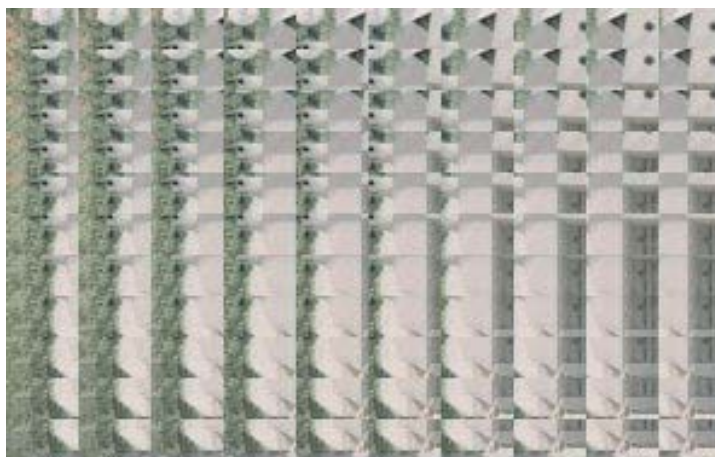


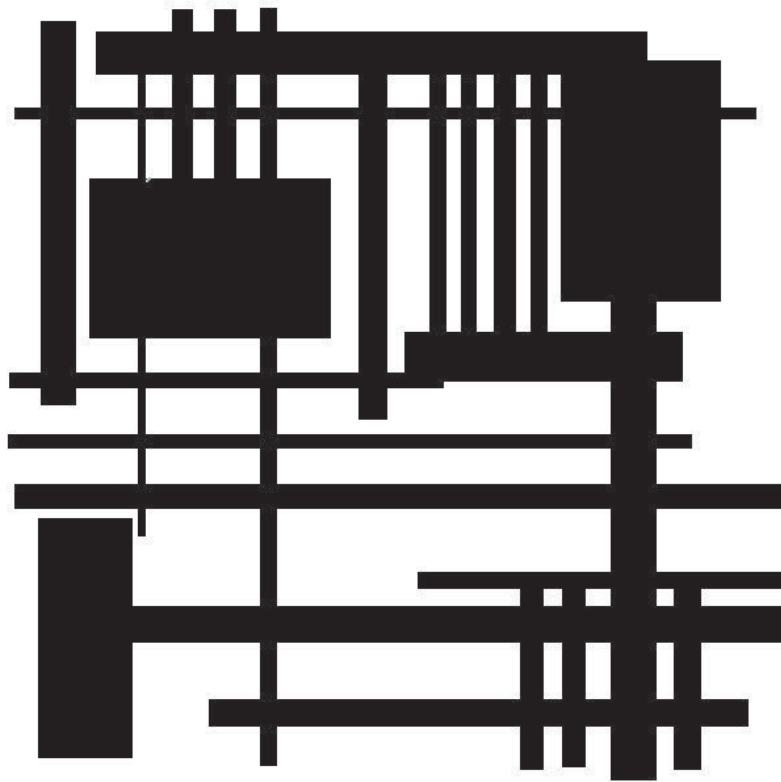
Visual score for the purpose of phrasing and movements





## Phrasing and development



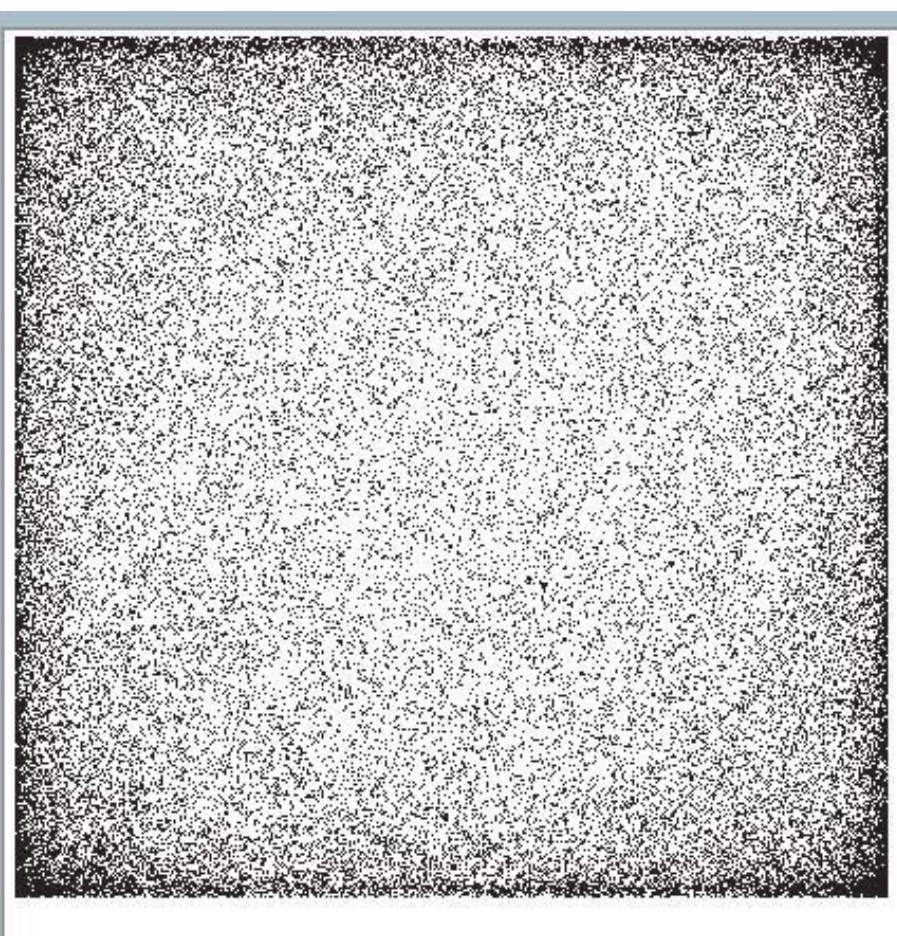


Two scores designed for simultaneous piece processes: track mixing and rhythmic pattern generation. Images from this series have also been used for waveform generation.



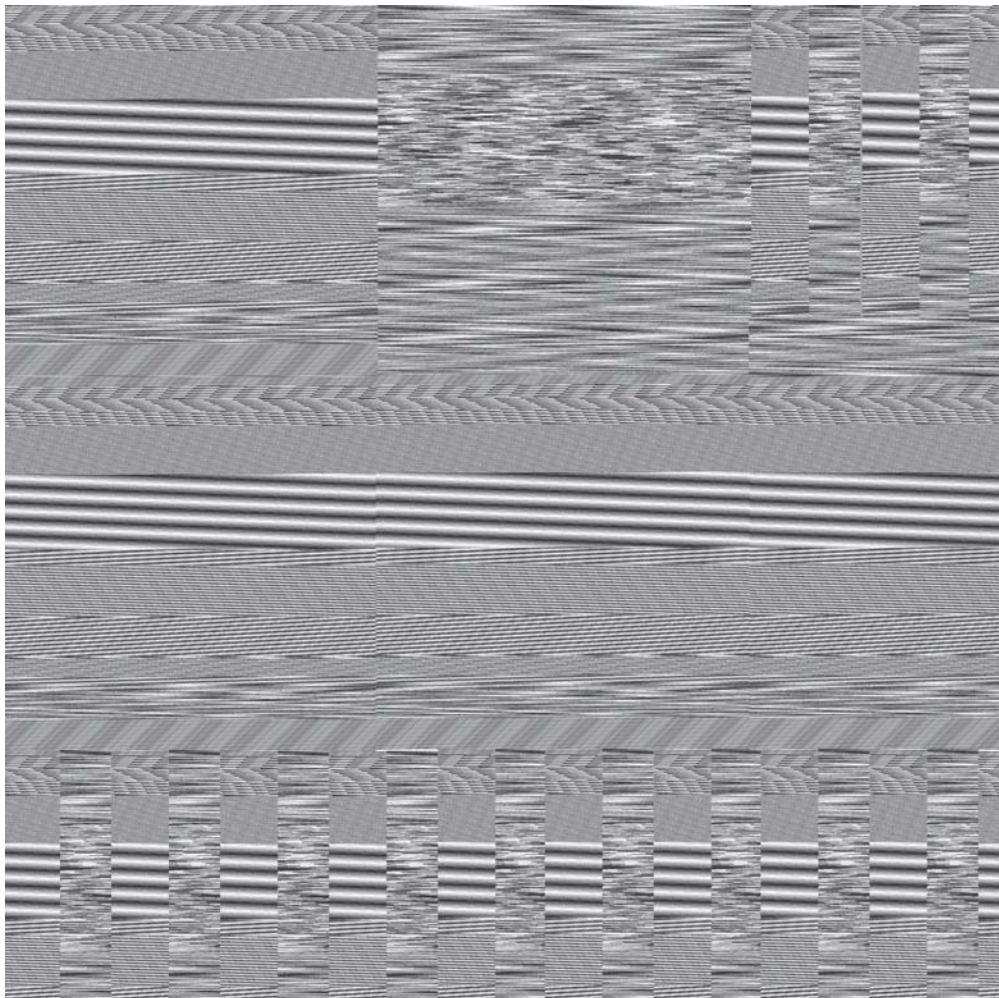
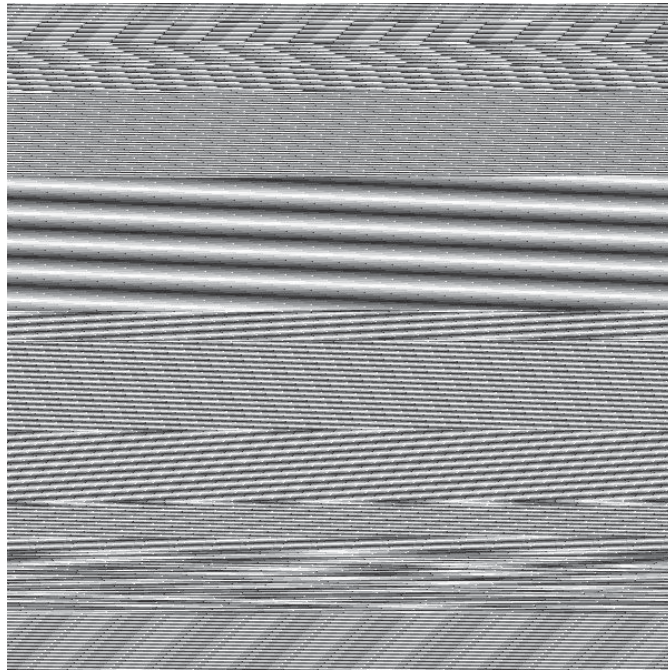


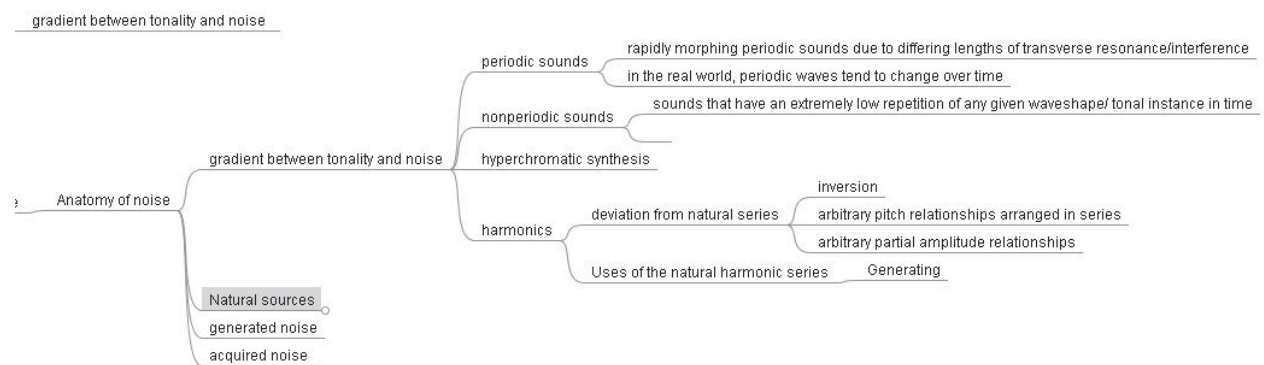
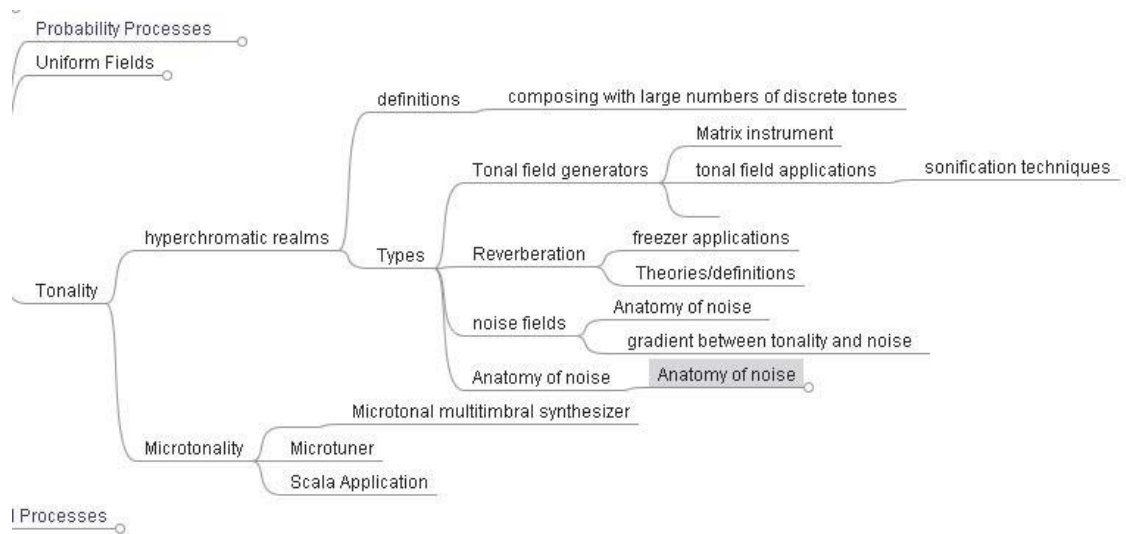
## Point-event distribution



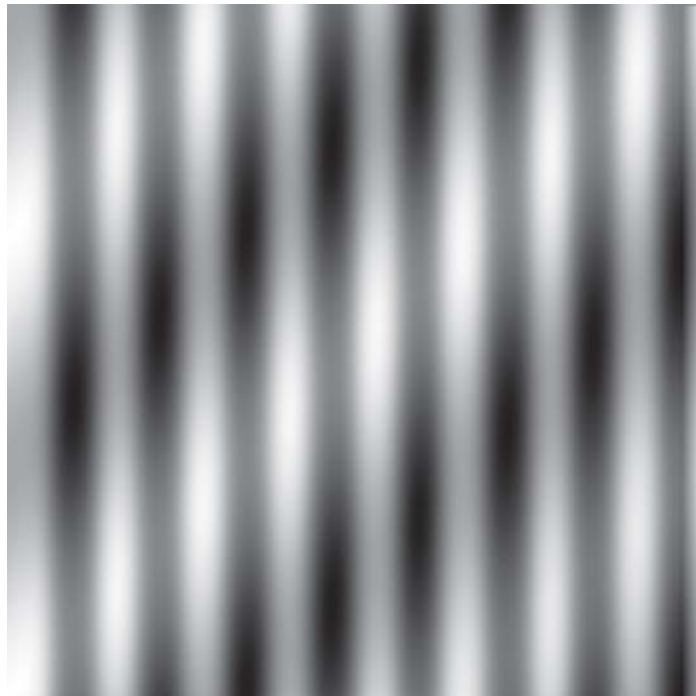


Algorithmic Generation of waves/patterns for the purpose of re-composition re-sampling in the visual realm

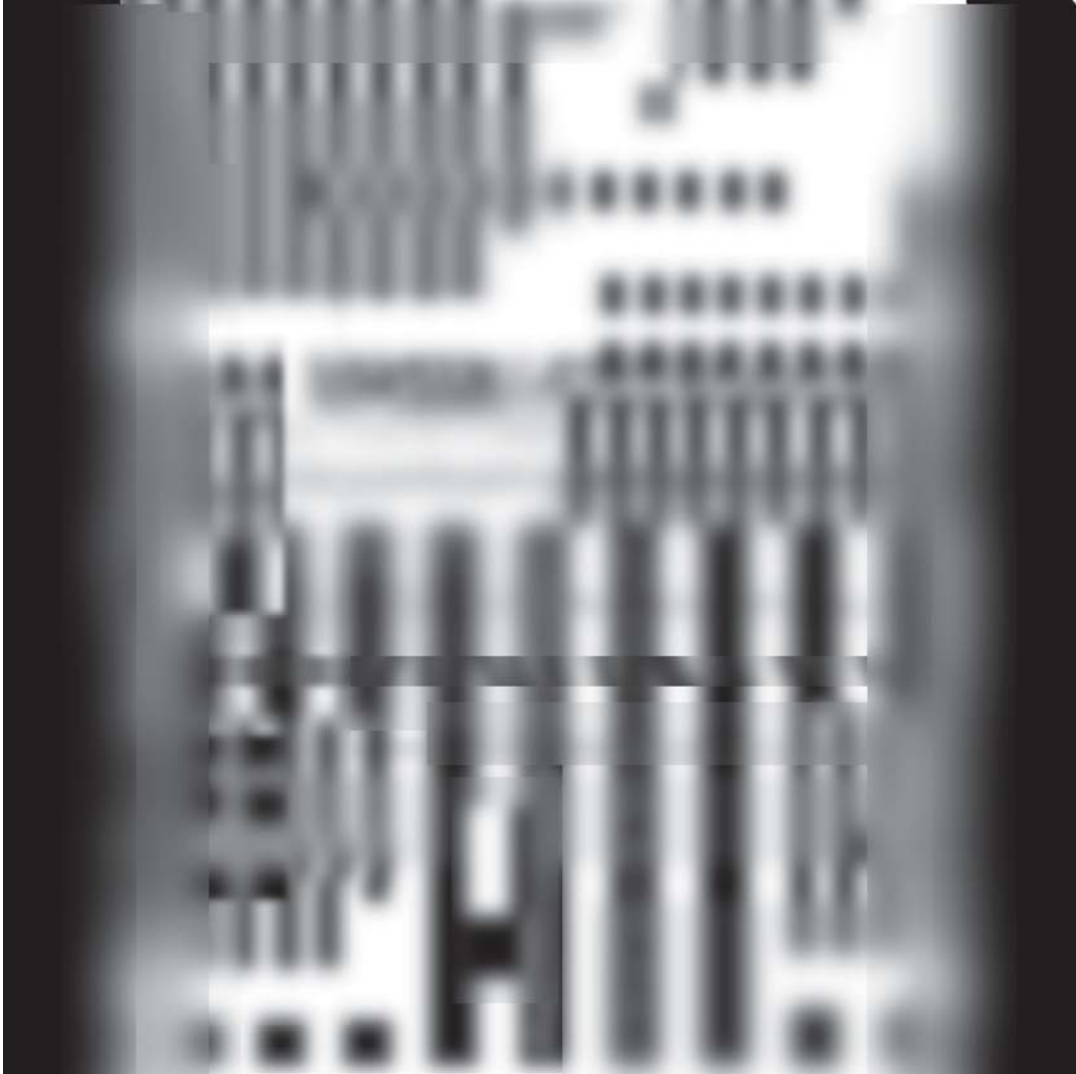




# Components

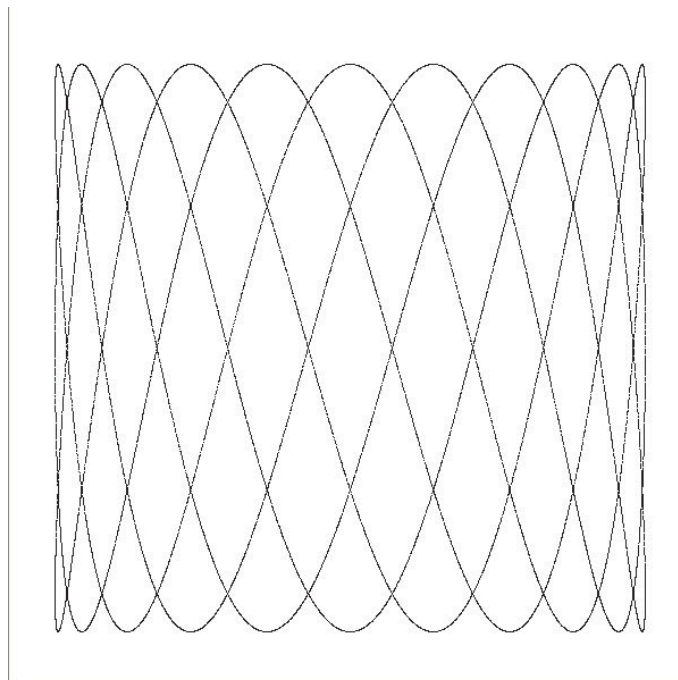
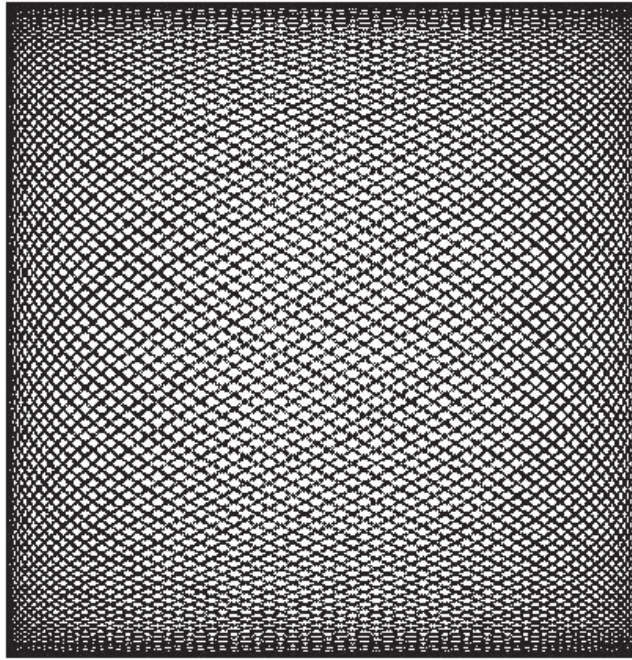


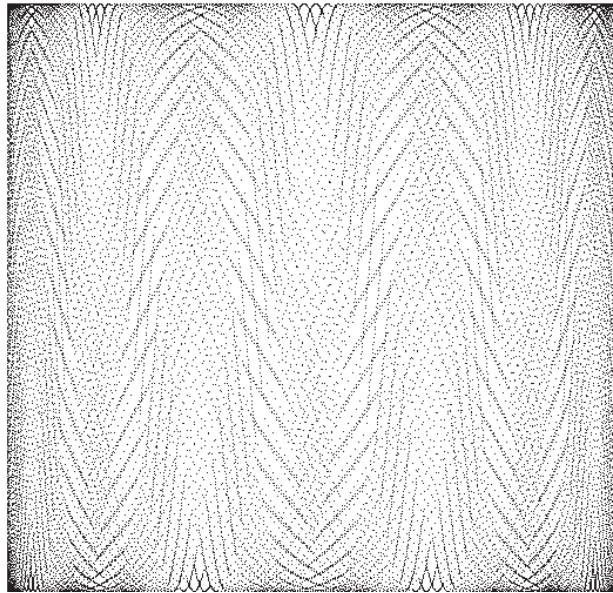
Score for a periodic wave





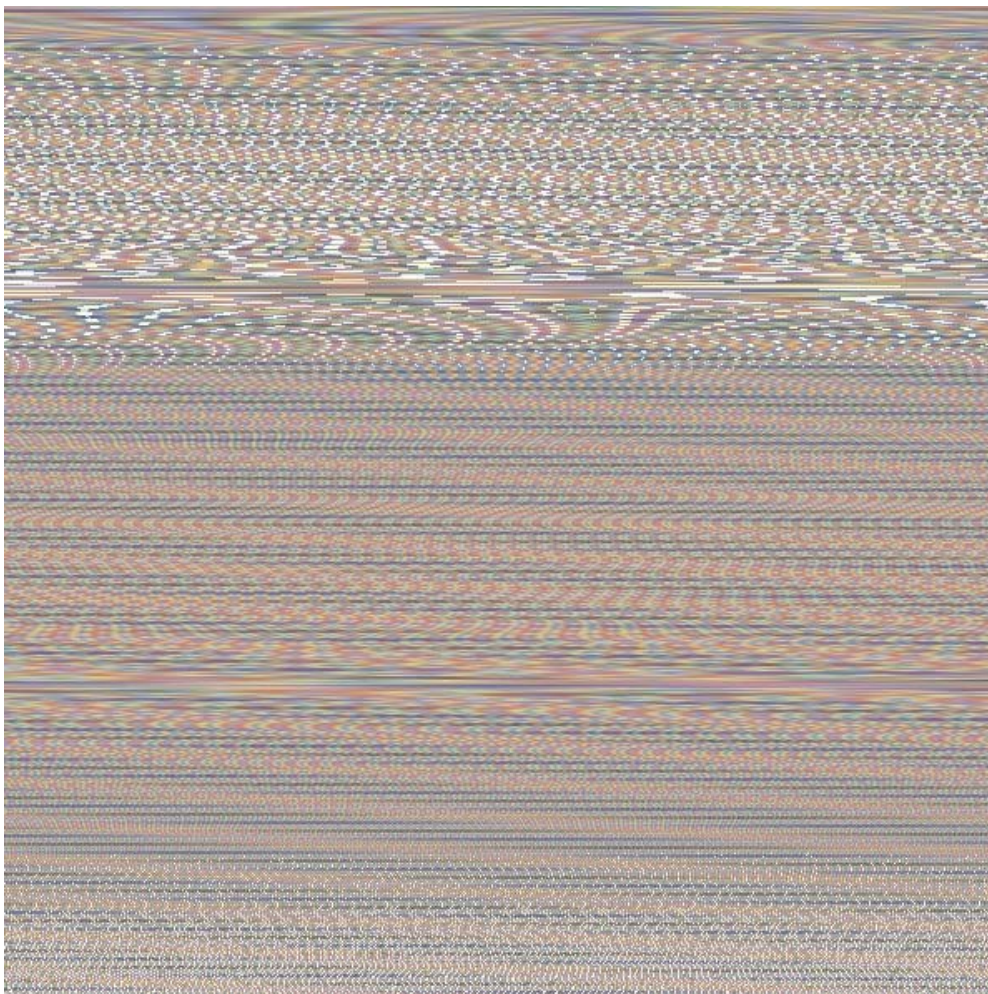
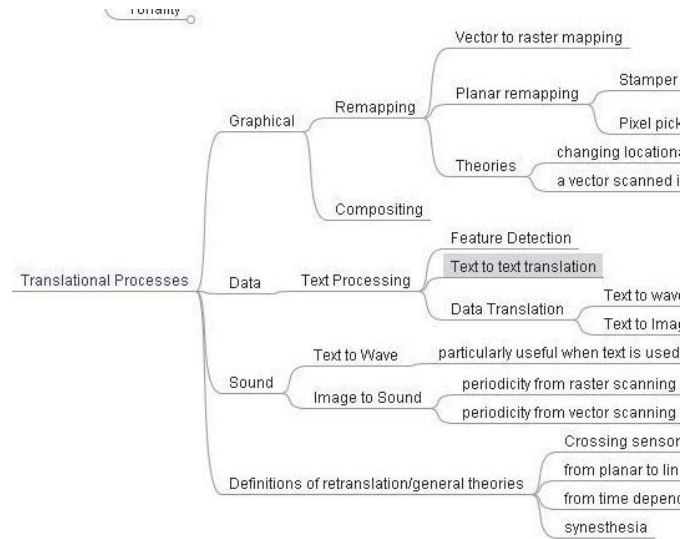
## Remapping images for sonification purposes





Images remapped in a modulated elliptical scan format to minimize the periodic nature of a simple raster scan method



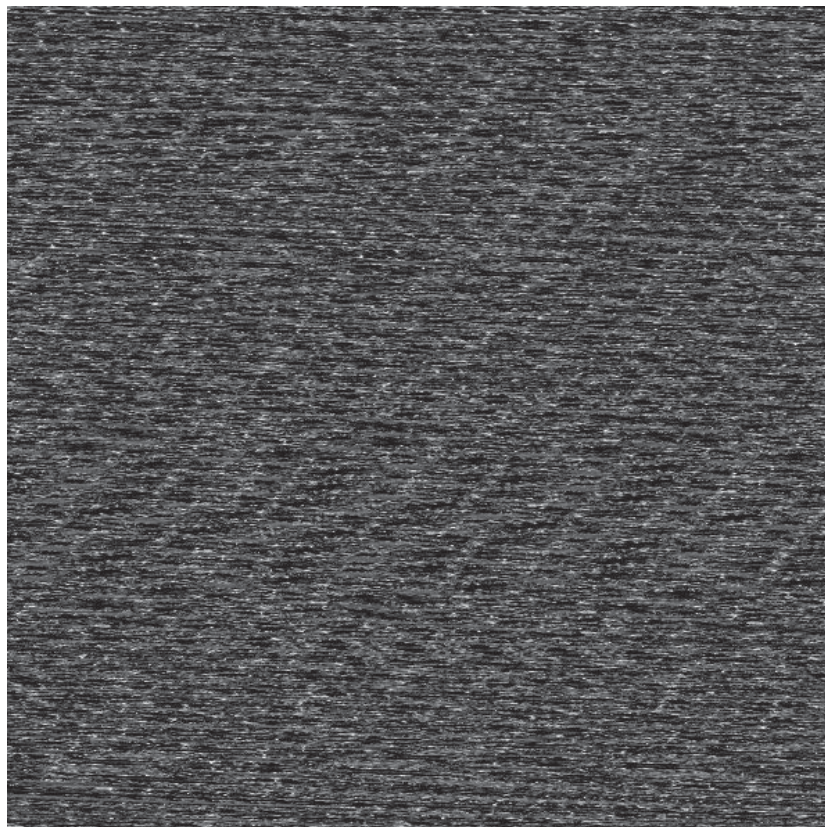




## Successive Remapping



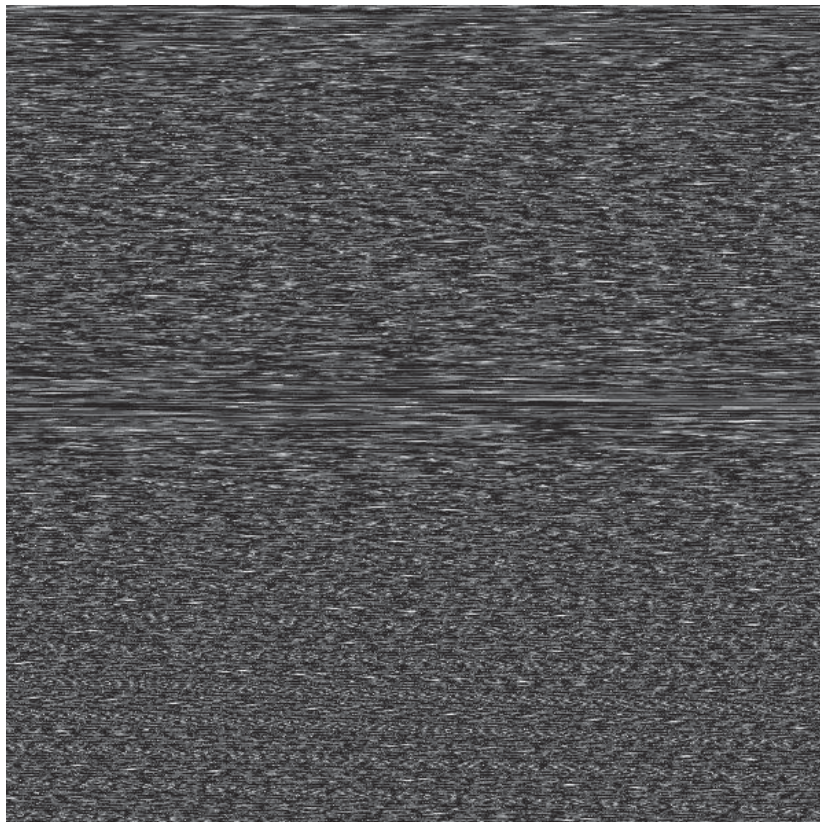
Any given image is a finite system, with its own histogrammic, frequency and angularity characteristics. Remapping changes the trajectory the latter mentioned traits, while preserving the former. The same basic raster scanning process is given the ability to move in any direction, because of the remapping. The results are then able to be manipulated in the visual realm.



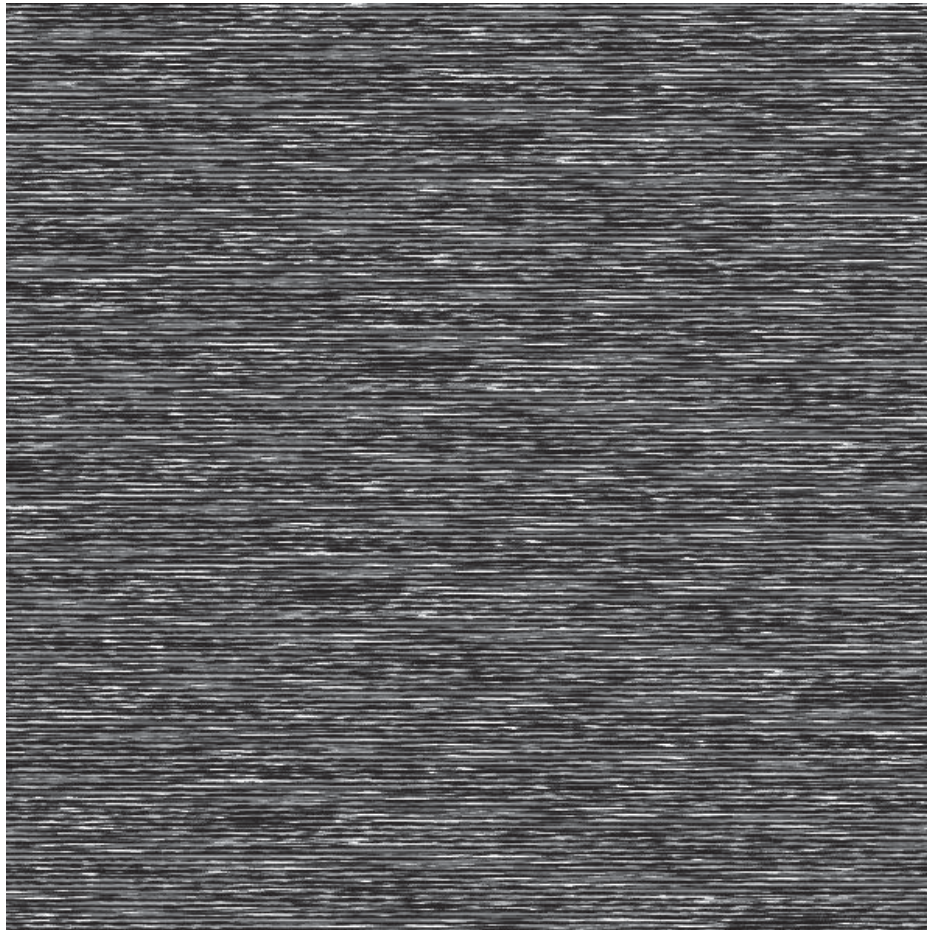




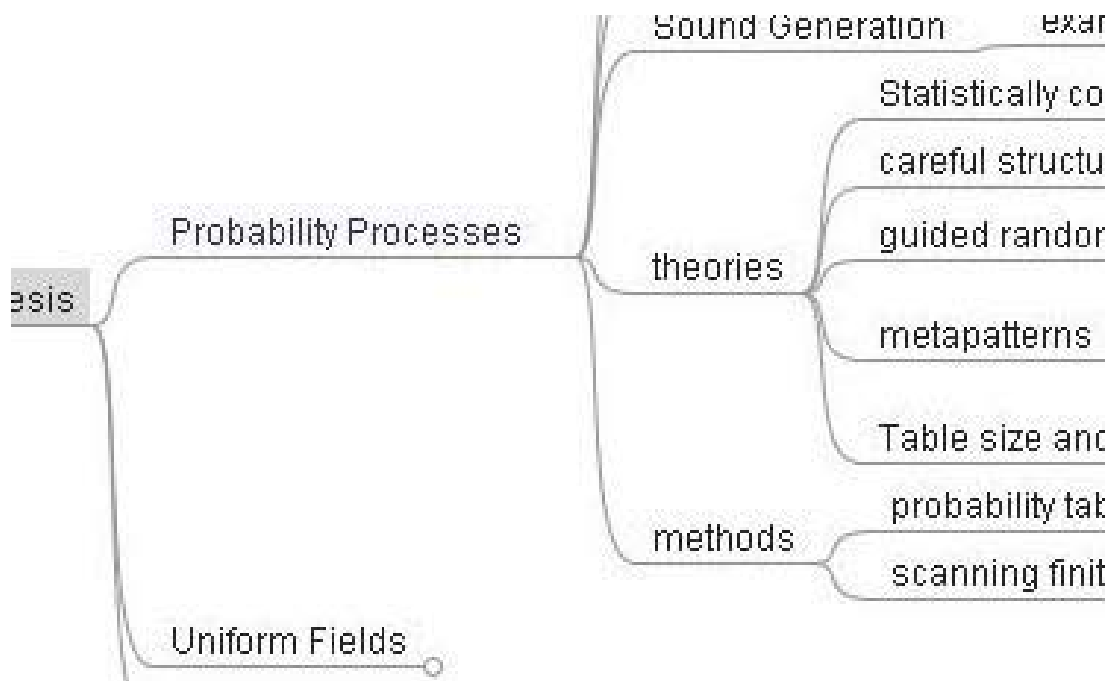
The result of a translational process, though it can look much different, cant escape some basic charactaristics of the original



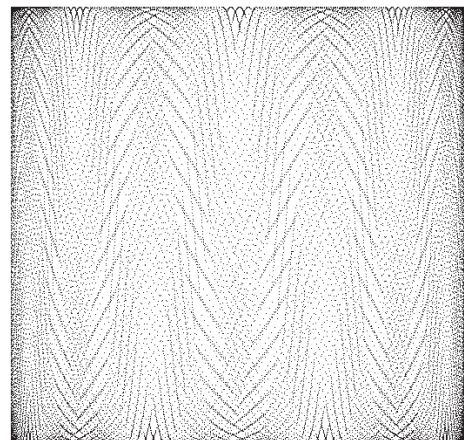
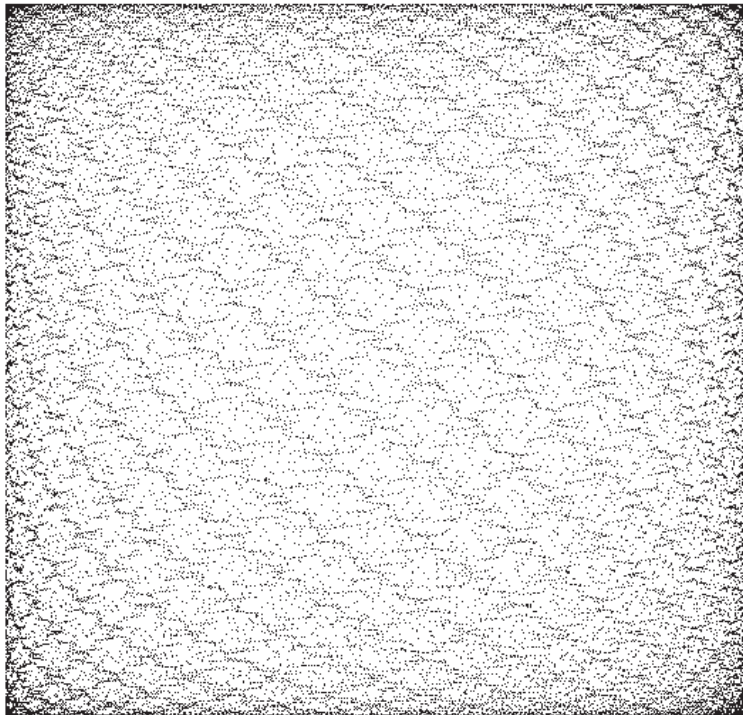
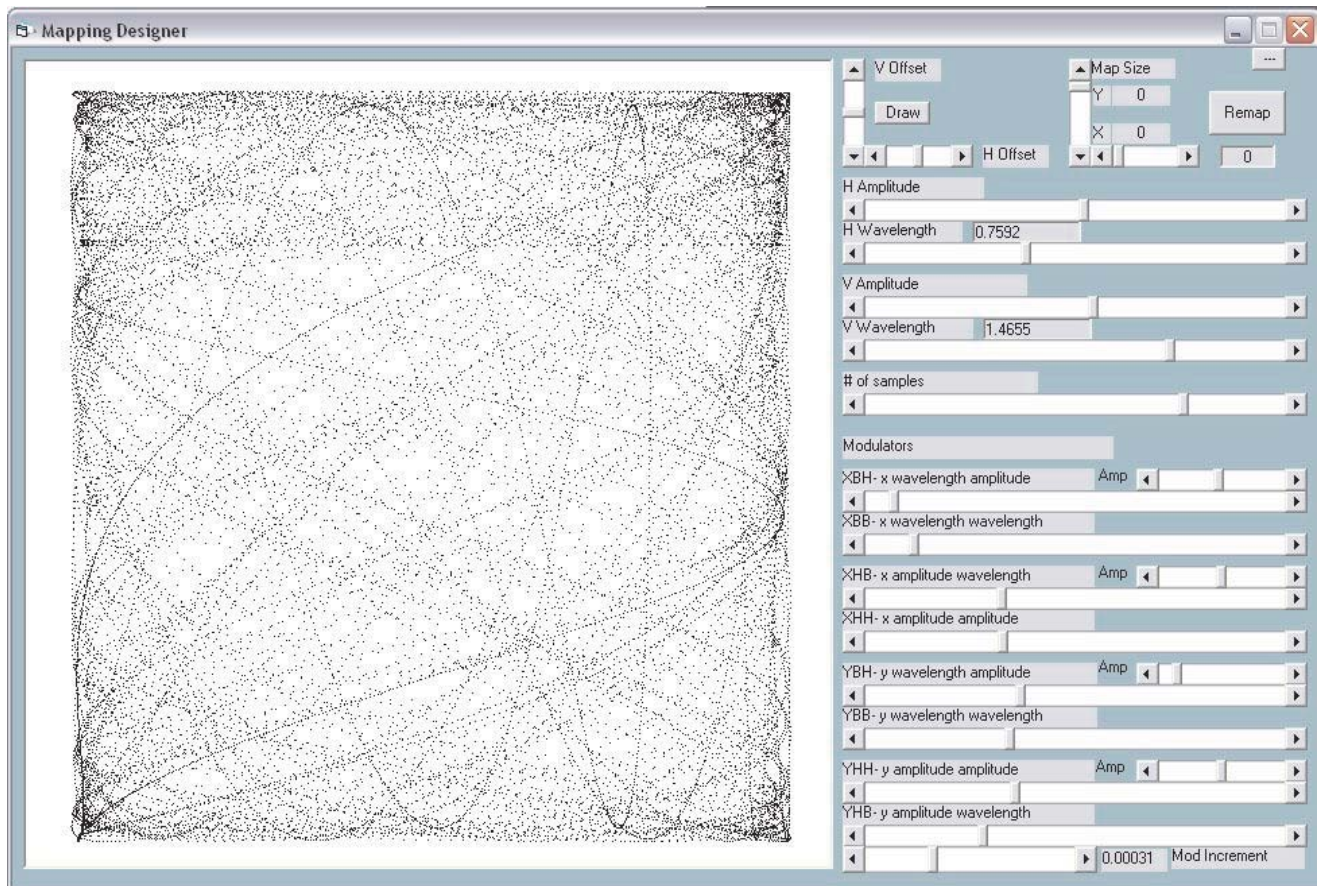




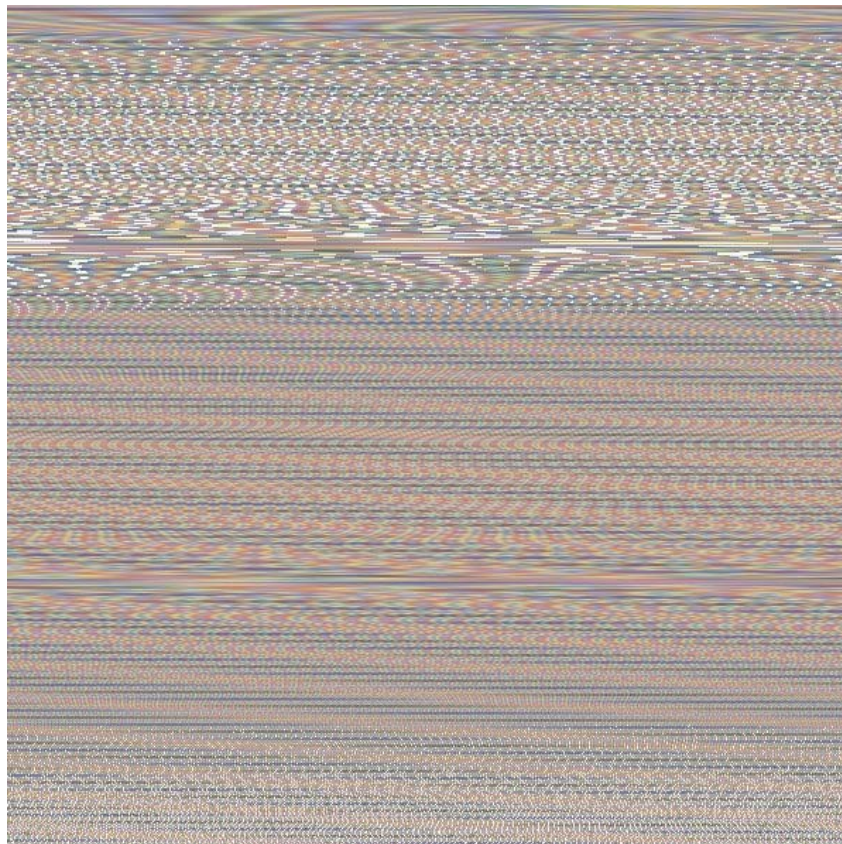
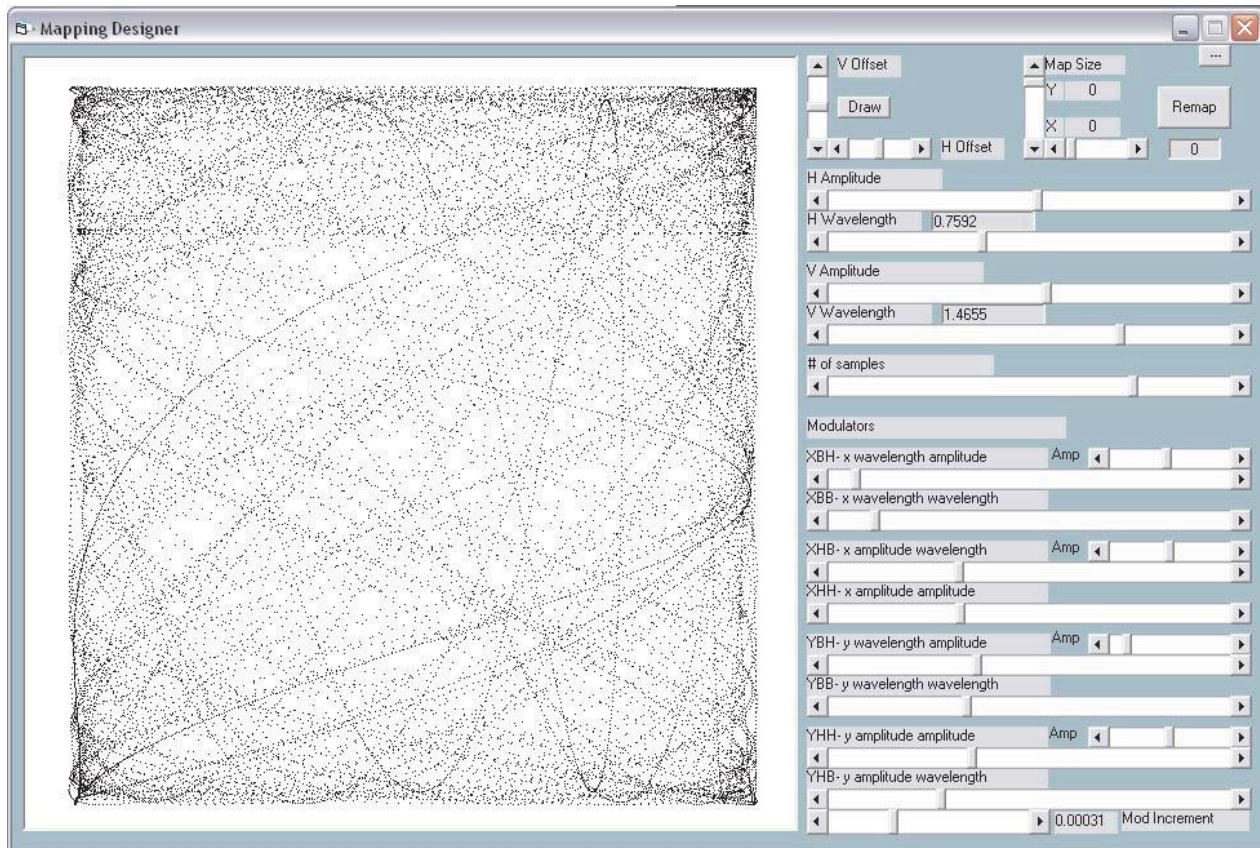
Fourth iteration of moon image remapped with the same modulated elliptical trace pattern



## Software created for designing elliptical scan trajectories

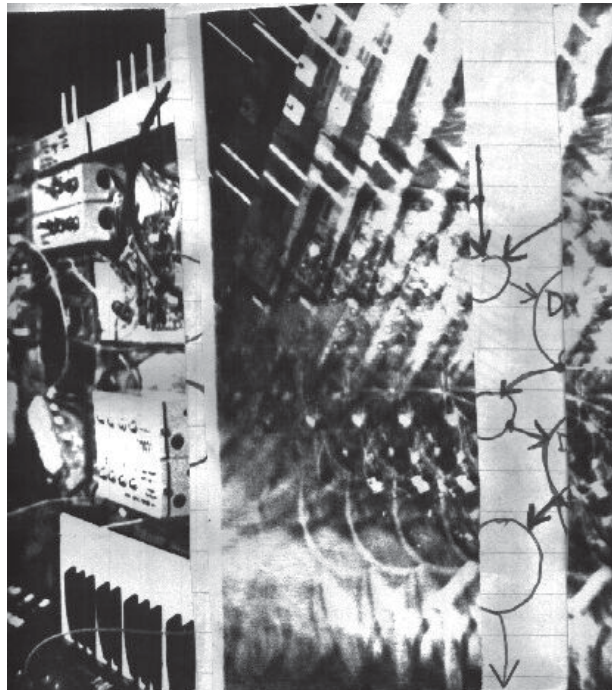








## Hardware



Examples of specialized machinery for acquiring/using terrain data



Remote terrain gathering device, single pixel camera/recorder intended for use on a moving vehicle or platform also the optical capture of film or human movements. Output is selectable as either MIDI or RS232 format, for use in sonification processes.



Prototype of a turntable style scanner for reading helical format visual scores and other various image material for production and live performance. Output is MIDI Continuous controller data, which can be mapped to any musical attribute, or via a standard rs232 connection, mapped directly to sonic waveforms and other data processing programs .